

Southwest Regional Office

July 2, 2020

Rich Walton
Westmoreland Sanitary Landfill, LLC
111 Connor Lane
Belle Vernon, PA 15012-4519

Dear Mr. Walton:

As a follow-up to our call last week, this letter is to request that Sanitary Landfill submit additional information to the Department of Environmental Protection (“Department” or “DEP”) relating to the landfill’s application 65-00767C for an Air Quality Plan Approval for an evaporation unit and its application for a minor permit modification for its Waste Management permit.

This additional information will help the Department respond to the numerous comments received from the public and to document site specific data on radiological contaminants in the leachate. The Department’s review of the radiological parameters to this point relied on the data from the statewide TENORM study, specifically, radiological contaminant concentrations in leachate from landfills accepting drill cuttings from unconventional gas wells. For purposes of this letter, “radiological parameters” should, at a minimum, include Radium 226, Radium 228, Gross Alpha and Gross Beta. Generally, the additional data being requested is to document site specific data on radiological contaminants in each step of the proposed treatment process from raw leachate to the final air emissions. The specific information and data as well as the methodology for collecting the data is shown below. This information will also be useful to Sanitary Landfill to determine if the resulting solids can be disposed of in the landfill. If not, the cost of operating the evaporator will increase significantly and the Leachate Management Plan would need to be modified accordingly.

Thank you for quickly providing the results of a leachate sample taken in February 2020 which was analyzed for some of the radiological parameters in Pollutant Group 7. It is our understanding that a second sample has been taken of the leachate from Manhole #1 and is now being analyzed at an independent lab for the same radiological parameters. It is also our understanding that some bench scale testing was done on the HRT system during the design phase and that this bench scale system is still available for use. In response to this letter, please provide the analytical results on the second leachate sample and all the available data from the earlier bench scale testing.

Bench Scale Testing

Future bench scale testing should include the collection of a 10-gallon sample from Manhole #1 every day for five days, recording leachate flows for each sample. These five samples should be composited into one 50-gallon container, and a thoroughly mixed sample from the container should be sent to a laboratory for analysis of the radiological parameters with the remainder of the 50-gallon composited sample sent to the bench scale testing facility previously used for the design of the HRT system. This process should be repeated for a second five-day period resulting in two composited samples. These results combined with the results from the two samples already taken (including the flows at the time of those sampling events) should provide an adequate data set.

The bench scale tests should include passing each of the two 50-gallon samples through the bench scale treatment system at separate times and cleaning the system between runs. Any solids generated by the system should be analyzed for the radiological parameters following each step i.e. settled solids, Basket strainer, Vmax initial filter, processor fine particulate filter and hydrocarbon separator. For your own information, you may also want to have these solids samples analyzed for the Form U Parameters in addition to the radiological parameters, however, we are not requiring that at this time.

The final effluent from the bench scale HRT system which would go to the evaporator should be analyzed for the radiological parameters, TDS and TSS. Using this HRT effluent data, calculate emission rates from the evaporator for the radiological parameters in pCi/L of air (25 Pa. Code Sections 127.12 and 121.7) and the calculated solids concentration for the radiological parameters in the evaporator blowdown at the proposed evaporation rates in pCi/kg (25 PA Code 271.122(b)). The state of the radionuclide emissions: particulate, gaseous, or other (please specify) and estimates of emissions for each state should be included. The calculated radiological parameter concentration level at the outlet of the evaporator stack should be compared to the United States Nuclear Regulatory Commission's limits and "less than unity" rule specified Standards for Protection Against Radiation, 10 CFR 20, Appendix B and submitted to the department for review.

Additional Data and Information

The Waste Management application represents that the manufacturer of the HRT system specifies that the system will remove 99.97% of 3-micron particles in the leachate. Please submit supporting documentation of system performance from the manufacturer, to the extent not previously provided. The supporting documentation should also include Total and Dissolved solids (TDS) and Total Suspended Solids (TSS) concentrations in the raw leachate and in the treated effluent from the HRT system.

Comment No. 4.C and 4.D of the April 14, 2020, of the Waste program's technical deficiency letter requested the characterization and periodic monitoring of the concentrated residues generated by the evaporation unit for the Form U parameters, *i.e.*, pH, flashpoint, reactive

cyanide, reactive sulfide, PCBs, TCLP metals, TCLP volatiles, TCLP semi-volatiles, radium-226, radium-228, potassium-40, and $\mu\text{R/hr}$ meter readings. Comment No. 5.A asked for the composition of the residues that each part of the HRT system generate.

Provide a proposal which demonstrates: (a) that the air emissions from the evaporator will be equipped with reasonable and adequate facilities to monitor and record the emissions of radionuclide air contaminants (either appropriately sensitive radiation detectors or periodic analysis of the particulate matter collected during periodic air emissions source testing) and operating conditions which may affect the emissions of radionuclide air contaminants; (b) that the records of radionuclide air contaminants are being and will continue to be maintained; and (c) that the records of radionuclide air contaminants will be submitted to the Department at specified intervals or upon request. 25 Pa. Code §127.12(a)(3).

Please provide any data that shows a statistical correlation between both TDS and TSS removal and the removal of radiological parameters through the treatment system.

Depending on the results of the testing described above, the Department may require a Best Available Technology (“BAT”) analysis that addresses radionuclide emissions. 25 Pa. Code §127.1 and §127.12(a)(2) and §127.12(a)(4) and §127.12(a)(5). If required, the BAT analysis would include a ranking of the available control options for the evaporator and associated equipment in descending order of control effectiveness, the evaluation of removal of a greater percentage of suspended solids and radionuclides from the raw leachate prior to evaporation, and an evaluation of the technical feasibility of the available control options.

In summary, please provide the following data and information:

1. The analytical results on the second leachate sample along with the flow at the time that sample was taken and the flow at the time the February 6, 2020 sample was taken as well as all the available data from the earlier bench scale testing.
2. The leachate flows at the time the samples are collected to composite the 50-gallon containers and the laboratory analytical results for each of the two 50-gallon containers.
3. Laboratory analysis of the solids generated by the bench scale HRT treatment system for the radiological parameters following each step, *i.e.* Basket strainer, Vmax initial filter, processor fine particulate filter and hydrocarbon separator.
4. Laboratory analysis of the final effluent from the bench scale HRT treatment system, which would go to the evaporator, for the radiological parameters, TDS and TSS. Using this HRT effluent data, provide the calculated emission rates and supporting calculations/data from the evaporator for the radiological parameters in pCi/L of air and the calculated solids concentration for the radiological parameters in the evaporator blowdown at the proposed evaporation rates in pCi/kg. The state of the radionuclide emissions: particulate, gaseous, or other (please specify) and estimates of emissions for each state;

5. Supporting documentation of the HRT system performance from the manufacturer, to the extent not previously provided. The supporting documentation should also include TDS and TSS concentrations in the raw leachate and TDS and TSS concentrations (mg/L) in the treated effluent from the HRT system.
6. A complete response to the Department's April 14, 2020 Technical Deficiency letter including a proposal to periodically monitor the concentrated residues generated by the evaporation unit for the Form U parameters, *i.e.*, pH, flashpoint, reactive cyanide, reactive sulfide, PCBs, TCLP metals, TCLP volatiles, TCLP semi-volatiles, radium-226, radium-228, potassium-40, and $\mu\text{R/hr}$ meter readings. Comment No. 5.A asked for the composition of the residues that each part of the HRT system generate.
7. An emissions monitoring proposal which shows: (a) that the source will be equipped with reasonable and adequate facilities to monitor and record the emissions of radionuclide air contaminants (either appropriately sensitive radiation detectors or periodic analysis of the particulate matter collected during periodic air emissions source testing) and operating conditions which may affect the emissions of radionuclide air contaminants; (b) that the records of radionuclide air contaminants are being and will continue to be maintained; and (c) that the records of radionuclide air contaminants will be submitted to the Department at specified intervals or upon request.
8. Copies of all raw data, analytical results, leachate flows etc. as well as documentation of procedures and Quality Assurance methodology for sampling and analytical activities and all calculations used to estimate emissions.
9. Data that shows a correlation between both TDS and TSS removal and the removal of radiological parameters through the treatment system.

Please provide your response to this request within sixty (60) days of receipt of this letter. The response should be in both hard copy and electronically to my attention at the email address shown below. As discussed, this letter is not a final action of the Department; final action on the pending permit applications will depend on the data contained in the response to this request and correction of any outstanding violations noted in inspection reports or Notices of Violation *i.e.* daily cover, mud tracking, stormwater discharges etc. The data will also determine whether a re-draft of the Air Quality Plan Approval 65-00767C will be needed.

Sincerely;

Ronald A. Schwartz

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